

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of the claims:

1. (Presently Amended) A method for identifying compounds useful for the treatment, ~~prevention~~, or diagnosis of a mitoNEET associated metabolic dysfunctional disease or condition selected from the group consisting of metabolic dysfunction, diabetes, impaired glucose tolerance, and obesity, comprising the step of determining whether said compound interacts directly with ~~a~~ MitoNEET polypeptide selected from the group consisting of:

a polypeptide having at least about 81% homology to the amino acid sequence of SEQ ID NO:4, SEQ ID NO:5, or SEQ ID NO:6;

a substitution, deletion or insertion variant of the amino acid sequence of SEQ ID NO:4, SEQ ID NO:5, or SEQ ID NO:6; and

an allelic variant of SEQ ID NO:4, SEQ ID NO:5, or SEQ ID NO:6.

2. (Presently Amended) The method of claim 1 wherein said mitoNEET associated metabolic dysfunctional disease or condition is diabetes ~~selected from the group consisting of metabolic dysfunction, diabetes, impaired glucose tolerance, obesity, a cardiovascular disorder, a cancer or tumor, a neurodegenerative disorder, or an inflammatory disorder.~~

3. (Presently Amended) The method of claim 2 wherein said method is for identifying compounds useful for the treatment, ~~prevention~~, or diagnosis of non-insulin-dependent diabetes.

4. (Presently Canceled) ~~The method of claim 2 wherein said method is for identifying compounds useful for the treatment, prevention, or diagnosis of Alzheimer's or Parkinson's disease.~~

5. (Previously Presented) The method of claim 1 wherein in said step of determining whether the compound interacts directly with mitoNEET the step comprises the specific binding of a labeled thiazolodinedione analog.

6. (Previously Presented) The method of claim 5 wherein said labeled thiazolodinedione analog is PPAR γ sparing.

7. (Previously Presented) The method of claim 6 wherein said thiazolodinedione analog is 4-azido-N-[2-({[6-(2-{4-[(2,4-dioxo-1,3-thiazolidin-5-yl)methyl]phenoxy}ethyl)pyridin-3-yl]acetyl}amino)ethyl]-2-hydroxybenzamide.

8. (Withdrawn) A method for treating or preventing a mitoNEET associated metabolic dysfunctional disease or condition comprising administering to a mammal in need thereof a therapeutically effective amount of a compound identified by the method of claim 1.

9. (Withdrawn) The method of claim 8 wherein said mitoNEET associated metabolic dysfunctional disease or condition is selected from the group consisting of diabetes, impaired glucose tolerance, obesity, a cardiovascular disorder, a cancer or tumor, a neurodegenerative disorder, or an inflammatory disorder.

10. (Withdrawn) The method of claim 9 wherein said method is for treating non-insulin-dependent diabetes, atherosclerosis, hypertension, Alzheimer's or Parkinson's disease.

11. (Withdrawn) An antibody that immunospecifically-binds to a mitoNEET polypeptide.

12. (Withdrawn) A method of detecting differentially expressed genes correlated with a mitoNEET associated metabolic dysfunctional disease or condition

of a mammalian cell, the method comprising the step of detecting at least one differentially expressed gene product in a test sample derived from a cell suspected of being from a mitoNEET associated metabolic dysfunctional disease or condition, where the gene product is encoded by a mitoNEET nucleic acid sequence, wherein detection of differentially expressed product is correlated with a mitoNEET associated metabolic dysfunctional disease or condition state of the cell from which the test sample was derived.

13. (Withdrawn) A method for monitoring the progression of a metabolic disorder in a patient, the method comprising:

- a) detecting in a patient sample at a first point in time, the expression of a marker, wherein the marker is an isolated mitoNEET polypeptide;
- b) repeating step a) at a subsequent point in time; and
- c) comparing the level of expression detected in steps a) and b), and therefrom monitoring the progression of the metabolic disorder.

14. (Withdrawn) A method of assessing the efficacy of a test compound for correcting the metabolic disturbance, the method comprising comparing:

- a) expression of a marker in a first sample obtained from a patient exposed to the test compound, wherein the marker is an isolated mitoNEET polypeptide or associated polypeptide, and
- b) expression of the marker in a second sample obtained from the patient, wherein the sample is not exposed to the test compound, wherein a significantly lower level of expression of the marker in the first sample, relative to the second sample, is an indication that the test compound is efficacious for treatment.

15. (Withdrawn) A method of selecting a compound for treating, preventing, or diagnosis of a mitoNEET associated metabolic dysfunctional disease or condition in a patient, the method comprising:

- (a) obtaining a sample cells from said patient;
- (b) separately exposing aliquots of the sample in the presence of a plurality of test compounds;

- (c) comparing expression of a marker or post-translational modification of the marker in each of the aliquots, wherein the marker is selected from the group consisting of the markers of SEQ ID NO:4, SEQ ID NO:5, and SEQ ID NO:6, and
- (d) selecting one of the test compounds that alters the level of expression of the marker in the aliquot containing that test compound, relative to other test compositions.